

DAS[®]

DiversityAutoscanSystem

M32-M44

User Manual

DVB-T **CE**
Digital Video
Broadcasting

Index

1 User manual – English

CERTIFICATO DI GARANZIA MTC Multicomm

- 1 Tutti i prodotti distribuiti da Multicomm S.r.l. sono garantiti privi di difetti di materiale o costruzione. Nel caso in cui il prodotto manifestasse difetti di fabbricazione (difetto di conformità) l'Azienda si impegna a riparare o a sostituire tutte le parti guaste e a correggere tutti i problemi causati da difetti di fabbricazione. Multicomm S.r.l. si riserva il diritto di usare parti nuove o ricondizionate a titolo di composizione con parametri e performance uguali a quelle nuove o con qualsiasi rimedio disponibile a Sua discrezione ed insindacabile giudizio.
- 2 Qualsiasi forma di assistenza, riparazione o sostituzione non coperta dalla Garanzia Multicomm, sarà soggetta alle condizioni e tariffe del Centro di Assistenza.

LIMITI ed ESCLUSIONI

- 3 I prodotti sono garantiti per un periodo di 24 mesi dalla data di vendita ad eccezione delle seguenti cause:
 - 12 mesi per le batterie elettroniche e meccaniche soggette ad usura
 - 0 mesi per le batterie interne ai prodotti (es. telecomando, ecc...)
 - 12 mesi per prodotti usati e ricondizionati
- 4 La Garanzia è da considerarsi NULLA nel caso in cui il prodotto sia stato manomesso, usato o installato o collegato impropriamente, assoggettato ad abuso, imperizia o danni derivati per causa accidentale, liquidi, condensa, eventi naturali, errato trasporto, rotture fisiche, problemi dovuti a elettro-apparati della vettura o interferenza elettriche.
- 5 La Garanzia è da considerarsi NULLA nel caso in cui il numero di matricola dell'apparecchio risulti alterato o asportato, o i cablaggi in dotazione siano stati modificati o manomessi.
- 6 La Garanzia è limitata alla riparazione o sostituzione del prodotto difettoso anche con prodotti aventi simili caratteristiche ad insindacabile giudizio dell'Azienda. LA mancata presentazione del Certificato di Garanzia o della fattura del regolare acquisto fa decadere ogni tipo di Assistenza e Garanzia.
- 7 La Garanzia è da considerarsi Nulla nel caso in cui il prodotto sia utilizzato a scopi industriali, commerciali o professionali.
- 8 La Garanzia è da considerarsi Nulla nel caso in cui il prodotto venga manomesso o riparato da personale non autorizzato.
- 9 L'acquisto decade dai diritti previsti dall'art. 1519-quadro comma secondo, se non si denuncia a Multicomm S.r.l. il difetto di conformità entro il termine di due mesi dalla data di acquisto in cui è stato scoperto il difetto.
- 10 Un difetto di conformità minore non conferisce al Consumatore il diritto di chiedere la risoluzione del contratto o della vendita del prodotto.
- 11 Multicomm S.r.l. si impegna affinché le riparazioni siano effettuate entro un congruo termine dalla richiesta e non arrechino notevoli inconvenienti al Consumatore, tenendo conto della natura del bene e dello scopo per il quale il bene è stato acquistato.
- 12 NULLA sarà dovuto all'Acquirente per il tempo intercorso per la riparazione o sostituzione del prodotto.
- 13 L'Acquirente non potrà in nessun caso pretendere risarcimenti o indennizzi di sorta per spese o per danni diretti o indiretti conseguenti all'uso del prodotto o perdita di dati in ogni circostanza, danneggiamenti a supporti audiovisivi o di qualsiasi altro danno riferito all'equipaggiamento utilizzato in connessione al prodotto.
- 14 L'Acquirente si assume in TUTTO tutti i rischi connessi al trasporto come rotture accidentali dovute ad imballi inadeguati, furti e manomissioni.
- 15 Prima di qualsiasi spedizione di merce in Garanzia è necessario ottenere l'AUTORIZZAZIONE al RESO contattando direttamente
MTC Multicomm srl - Via Selvetta 7 - 21100 Varese - Italia
Tel. +39 0332-280512 - Fax +39 0332-283048 - multicomm@multicomm.it
 La merce di ritorno deve essere inviata Franco destinatario insieme alla seguente breve documentazione : copia della fattura acquisto (per il rivenditore) o copia dello scontrino fiscale con indicato chiaramente il modello acquistato - copia della garanzia compilata in tutte le sue parti e firmata per accettazione - breve nota sui difetti riscontrati.
 Foro competente di Varese - Italia.

Firma per accettazione

Nome e Cognome (in stampatello)

Per approvazione: art.3, art.4, art.5, art.6, art.7, art.8, art.9, art.13, art.14, art.15

Firma

Nome e Cognome (in stampatello)

MODELLO:**DATA DI ACQUISTO****CODICE SERIALE**

Questa garanzia deve essere conservata ed allegata all'apparecchio in caso di intervento presso il Centro di Assistenza autorizzato.

MTC Multicom GUARANTEE CERTIFICATE

- 1 All products distributed by Multicom S.r.l. are guaranteed to be without defects in materials of manufacture. In the unfortunate case in which the product does show manufacturing defects (conformity defect), the company hereby undertakes to repair or replace all problem parts and to correct all problems caused by manufacturing defects. Multicom S.r.l. reserves the right to use new or reconditioned parts for re-assembly whose parameters and performance are the same as new parts or any remedy available at its own discretion and unchallengeable judgment.
- 2 Any form of assistance, repair or replacement not covered by Multicom Guarantee will be subject to the conditions and rates applied by the authorised Multicom Service Centres.

LIMITS and EXCLUSIONS

- 3 The products will be Guaranteed for a period f24 months from the date of sale with the exception of the following causes:
 - 12 months for those electronic and mechanical parts subject to wear and tear (eg the laser lens, gears, etc);
 - 0 months for the product's internal batteries (eg remote control, etc);
 - 12 months for used or reconditioned products.
- 4 The Guarantee will be considered NULL AND VOID in circumstances where the product has been tampered , it has been incorrectly used, installed or connected or it has been subjected to abuse, negligence or damage deriving from accidental causes, liquids, steam, natural events, incorrect transport procedures, physical breakages or problems given by car electro-appliances or electrical interferences.
- 5 The Guarantee will be deemed NULL AND VOID in circumstances where the serial number of the device has been altered or removed or where the cabling supplied with the product has been modified or tampered with.
- 6 The Guarantee will only cover the repair or the replacement of the defective product including by products having similar characteristics in the unchallengeable judgment of the company. The failure to produce the Guarantee certificate or the invoice evidencing a valid purchase will result in the cessation of any obligation to provide any type of assistance or Guarantee.
- 7 The Guarantee will be deemed to be NULL AND VOID in circumstances where the product is used for industrial, commercial or professional purposes.
- 8 The Guarantee will not be covered by the rights provided for under Article 1519-quarter, paragraph 2, if the conformity defect is not reported to Multicom S.r.l. within the time limit of 2 months from the date of purchase on which the defect was discovered.
- 9 A small conformity defect will not give the Consumer the right to demand the rescission of the product sale contract.
- 10 Multicom S.r.l. hereby undertakes that the repairs or replacements will be effected within an appropriate time limit from the request and that they will not cause significant inconvenience to the Consumer, taking account of the nature of the goods and the purpose for which the Buyer has purchased them.
- 11 The Buyer will not be entitled to ANY compensation for the time taken for the repair or replacement of the product.
- 12 The Buyer will in no circumstances be entitled to claim compensation or indemnities of any kind for expenses or direct or indirect damage consequential to the use of the product or in any circumstances, from the loss of data, damages occurred to the audio-video supports or for any other kind of damage referred to the equipment used with the product.
- 14 The Buyer will accept ALL risks connected with transport such as accidental breakage including when due to inadequate packaging, theft or tampering.
- 15 Before the return of any goods under Guarantee it will be necessary to obtain AUTHORIZATION FOR RETURN by directly contacting:
MTC Multicom srl - Via Salvetta 7 - 21100 Varese - Italia
Tel. +39 0332-280512 - Fax +39 0332-283048 - multicom@multicom.it
- 16 The returned goods must be sent free to destination together with the following documentation: copy of purchase invoice or equivalent document, a brief note of the defects identified, the precise address where the sender wishes to receive the goods repaired or replaced under Guarantee, a photocopy of the Guarantee slip and Guarantee form (RMA), duly completed where this is required.
 The competent court will be the Court of Varese – Italy.

Signature for acceptance

Name and Surname (in capital letters)

For approval: art.3, art.4, art.5, art.6, art.7, art.8, art.9, art.13, art.14, art.15

Signature for acceptance

Name and Surname (in capital letters)

MODEL ITEM:

DATE OF PURCHASE:

SERIAL NUMBER:

This warranty must be kept together with the unit in case of assistance by the authorized assistance centre.

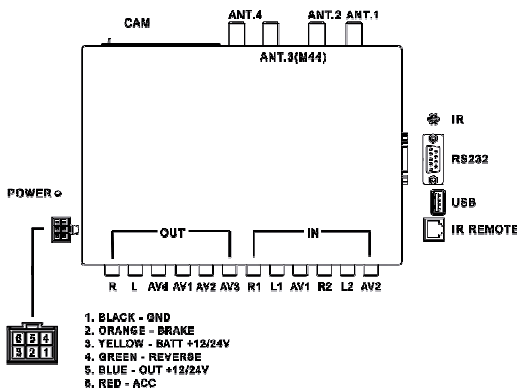
Warnings/Danger

- 1) **DO NOT USE OR PERFORM ANY FUNCTIONS WHILE DRIVING.**
This could cause accident, endangering both your safety and the safety of others. If prolonged intervention on the unit is necessary stop the vehicle in a safe place.
- 2) **Check your correct power supply.**
- 3) **Do not disassemble, tamper with or attempt to repair any parts of the unit.** Any such actions will immediately void the warranty and may lead to damage, accidents or injury.
- 4) **High temperature and humidity may compromise operation.**
- 5) **The unit should be installed by experienced personnel only.** Wrong wiring may cause problems to the vehicle as well as damage, accident and injury.
- 6) **For your safety, ensure that the driver monitor is connected to the DRIVER Video Output.**
If the connection to the handbrake and the menu settings are correct, the Video Driver will only work with the handbrake ON and therefore only with the vehicle still. Viewing images while driving is forbidden by the highway code
- 7) **Only connect the aerial provided or aerial guaranteed by the manufacturer.** Use of other types of antennas may damage the unit or the aerials themselves.

Remote Control Functions

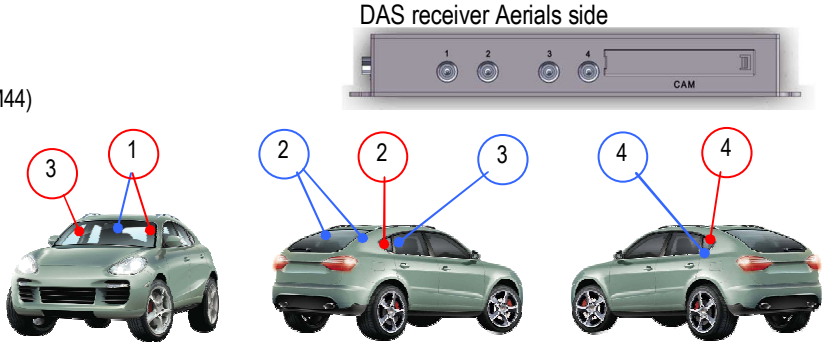


In-Out Panel



Aerials Panel

- 1) aerial 1
- 2) aerial 2
- 3) aerial 3 (M44)
- 4) aerial 4



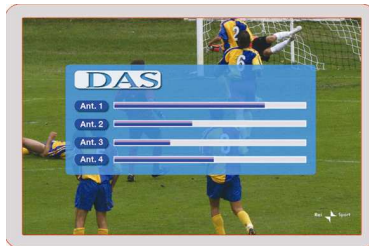
Warning: To ensure correct operation, aerials should be installed in the recommended position, far from shielded glasses, bodywork and other parts which may prevent a good signal reception.

Position the supplied antennas horizontally or vertically: other inclinations may prevent good reception. The drawing is provided for illustration purposes only. It is recommended to try different positions to identify the ideal location for the positioning of the antennas inside the vehicle. In case of difficulties contact a professional installer.

For this purpose, the unit includes a function that checks the signal strength at the aerial input.

To use this function, follow the procedure below:

- 1) Fully install the DASM32-M44 without positioning the antennas
- 2) Tune to a channel with a good reception
- 3) Access the "Configuration Menu" and press on Remote Control keys 1-2-3 in succession. The menu will return to the tuned channel and after few second the antennas control window will appear



If the dynamic bars are displayed by each aerial, the aerials are working correctly.

- 4) Remove the aerial again and press "0" (zero) on the remote control to reset the interferences to zero.
- 5) After reconnecting the aerial, install them on the desired window, ensuring that the dynamic bars show the best possible signal, without impairing the driver's visibility.

IMPORTANT: Place aerial 1 and aerial 2 opposite to each other to optimise reception in DAS mode (see figure). Aerial are remote powered at 5V. The use of aerials different or others than those supplied or aerials not guaranteed by the manufacturer may cause permanent damage to the equipment.

THE D.A.S. (Diversity Autoscan System)

The **DAS** system is the heart of the system on this DVB-T auto receiver. Standard receivers have been conceived for home use only and are fitted with a static directional system.

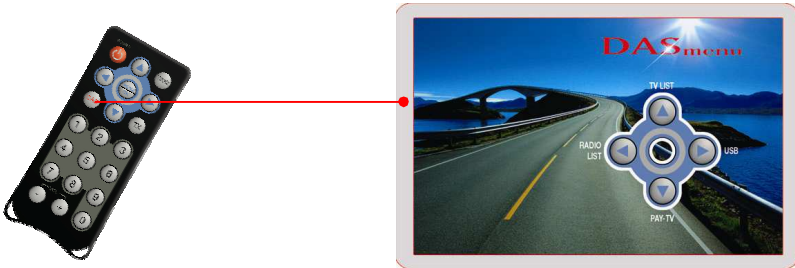
In the car, particularly during movement, the repeaters change and the signals are effected by the movement of the vehicle and the surroundings.

The Diversity Autoscan System features automatic research of the strongest signal, providing the best picture of the channel you want to view. Should several signals of the same channel be present, **DAS** will select the strongest one.




All searches and scanning are directly managed by the receiver, leaving the user the pleasure to enjoy the program and avoiding the manual tuning and long waits

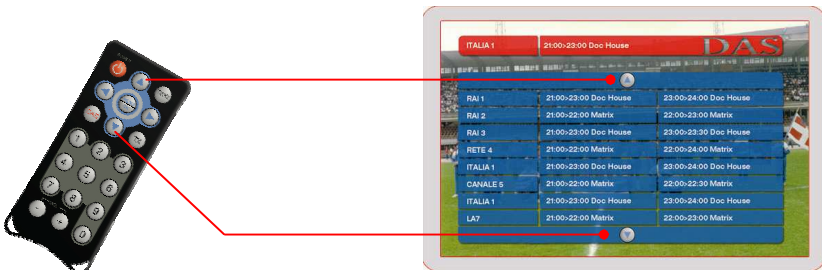
DAS MENU

Press the **DAS** Key on remote control to switch the menu on




TV-LIST

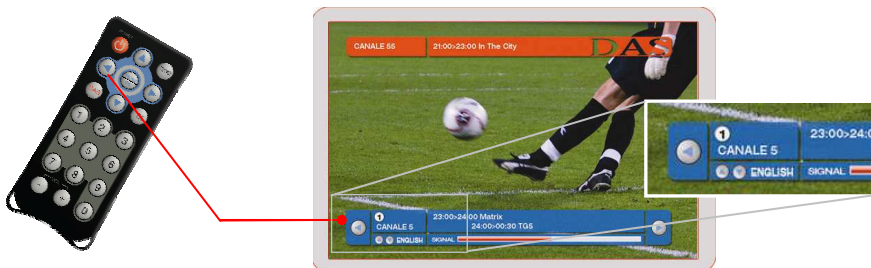
Press TV-List (up arrow ) to access LIST mode. The system creates a list of the channels that can be viewed at that particular time and place, in order of signal strength. Press the up  or down arrow  to access the list of channels.







Use the same keys to select the desired channel. Press Menu/OK to confirm the selection/choice. The menu will disappear itself after the time set in the main configuration menu (information bar **duration**) or by pressing the MENU/OK key. On the side of each channel is the EPG information. The first column shows the program being played, while the second one shows the program that will follow.

TV-LIST zapping

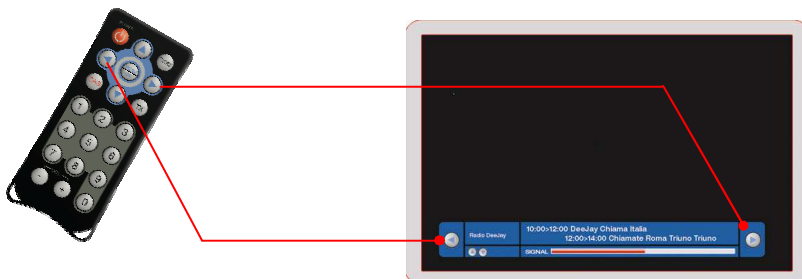
When in LIST mode, it is also possible to search for the channel in Zapping mode. Press the right arrow  to access the list of channels



Using Arrow right  and arrow left  you can scroll the list of channels. When a multi-language channel is selected, the main broadcasting language will appear under the name of the channel (example ITALIAN). Press up  or down  arrows to change the language while the INFO BAR is displayed. On the side of each channel is the EPG information. The first column shows the program being played, while the second one shows the program that will follow.

RADIO LIST

RADIO-LIST offers the same functions as TV-LIST. The video will display the names of the radio stations.



PRESELECT BAR

By activating the PRESELECT function from the Configuration Menu, it's possible to watch the preferred channel, with constantly checking the presence of other memorized favourite channels. The chosen 10 favourite channels are visible on superimposed bars. The signal reception quality is constantly update in real time for all the preferred memorized channels and 3 colours show the quality of signal (green = good; yellow = some disturbance; red = no signal)

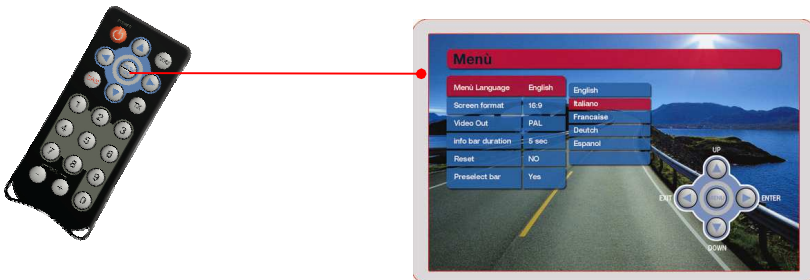
To memorize a channel on over impressed bars, push the buttons from 1 to 09 for at least 5 seconds, till it will appeared on the right side of the screen the words “memorized”. Thus the channels chosen will be located on the bars.



CONFIGURATION MENU

Press the Menu/OK button to access into the “Configuration” MENU.
To move and scroll, use the keys up/down right/left. Press Menu/Ok to confirm the selection.

- | | |
|-------------------|---|
| Menu language: | To select the preferred language |
| Screen format: | To select between 4:3 and 16:9 format |
| Video Out: | To select PAL/NTSC video system |
| Info-bar duration | To set the time of the information bar being displayed |
| Preselect Bar | To enable/disable availability of superimposed bars and channel numbers |
| Nation | To select the nation where the decoder is used |
| Reset: | To reset the whole system restoring factory setting (list of channels however is not cancelled) |



Optional SET UP – This is very important section

- Reverse Gear the device can be used with a reverse video camera (optional) connected to the AV1 input. To let the Driver monitor show the picture taken from the video camera when the reverse gear is engaged, it necessary to select from the same submenu the type of connection done on the green wire of the power output cable.
- positive (POS)
 - negative (NEG)
 - disable function (OFF)

To set this function correctly, seek help from a qualified installer

Hand brake

For safety reasons, the DRIVER monitor (the one visible by the driver) will not work while the vehicle is moving. It is therefore necessary to select from the same submenu the type of connection done on purple wire of the power output cable.

Check if the command of purple wire is positive (POS) or negative (NEG).

The correct selection will allow to watch from the DRIVER monitor only with Handbrake on. Ensure the unit is operating correctly before using the vehicle by addressing to an expert installer.

IMPORTANT NOTICE: THE MANUFACTURER AND ITS DISTRIBUTORS DECLINE ALL RESPONSIBILITY FOR DAMAGES OR ACCIDENTS CAUSED WHILE OPERATING THE UNIT ON A MOVING VEHICLE.

Audio/Video inputs

Press TV/AV on the remote control to scroll through the various inputs: TV – AV1 – AV2.

AV inputs are independent and provide audio and video entertainment in the selected mode (PAL/NTSC). The Auto-switch of AV1 input with reverse gear video camera integrated, is linked as default to the DRIVER monitor even with vehicle in motion. To display it also on the other monitors, set AV1 using remote control.

PAY-TV

The TV decoder DAS-M32CI and DAS-M44CI are equipped with a universal slot port to insert the CAM module (Conditional Access Module) of the Nation or broadcasting of pertinence: CAM menu is in Menu **DAS**.

USB

USB port input is at present used for SW upgrade to be downloaded from **DAS** internet website: www.dasdybt.com. Download the new Software release available file from the web and save it on a USB Key (FAT32). Connect the USB key to the USB port on **DAS** receiver BEFORE switching ON the unit. Once switched ON, the system will search for any new SW release and if found it will ask for installing confirmation.

Subtitles

In some Countries the subtitle service is available. It's enough to push the button TX to use this function. This button switches the Preselect BAR (10 favourite TV channels memorized – green/yellow/red) to the available languages subtitled.

If the subtitle service is not available, the TX button will show the selection of the only bar



Technical Specifications

Network Interface Module - DVB-T COFDM
Diversity with Anti-Doppler Enhancement
DVB / MPEG2 Transport and De-Multiplexing
ISO /IEC 13818-1 MPEG-2 Transport Stream Compliance
Nording II and ETS 300 744 DVB-T Full compliance
Frequency Range for VHF and UHF
OFDM Demodulation 2K and 8K FFT for SFN and MFN
Symbol rates: up to 34 MS/s
Automatic Adjacent-Channel interface Cancellation
Support QPSK and 16/64QAM Constellation
Support 1/4, 1/8, 1/16 ,1/32 Guard Interval
Support FEC Decoding: 1/2, 2/3, 3/4, 5/6 and 7/8
Support Reed-Solomon (204, 188) ETS 300 477
Video Decoding and OSD
ISO/IEC 13818-2 MPEG-2 Video MP@ML Compliance
ISO/IEC 11172-2 MPEG-1 Video Compliance
Resolution 720x480 for NTSC and 720x576 for PAL 16:9/4:3
65K Colour OSD

MTC

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