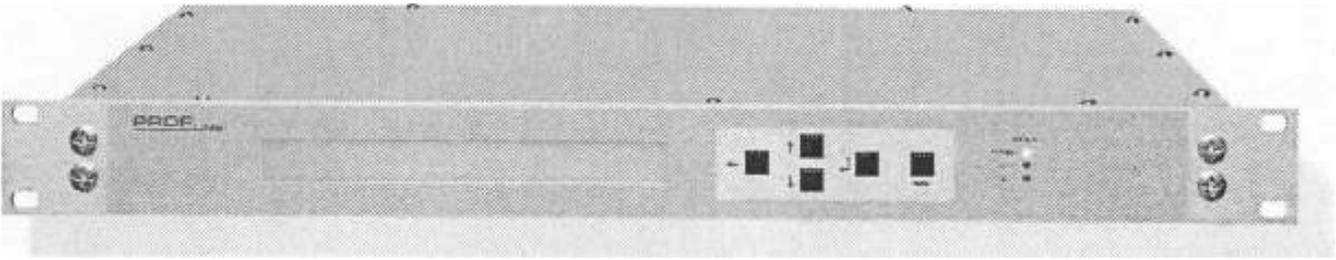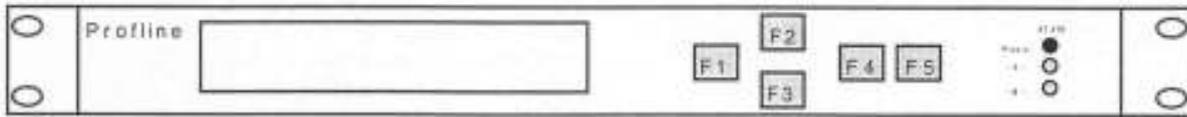# USER MANUAL SFM

FUNCTION KEY'S

The buttons on the front, are function keys (FI-F5). With this function keys all adjustments can be made at the front of the SFM.

Fl: STOP INPUT / MENU BACK-STEP
F2: STEP RIGHT / INCREASE VALUE
F3: STEP LEFT / DECREASE VALUE
F4: CONFIRM (ENTER)
F5: OPEN MENU / CLOSE MENU

When a value/preset must be changed, it should be selected first.
* Call MAIN MENU (F5)
* Select the submenu with the flashing cursor (using F2 or F3) that has to be changed and confirm (F4)
* Place flashing cursor (using F2 or F3) on the item at the submenu and confirm (F4)
* Now change the value/preset (using F2 or F3) and confirm (F4)
* When the value is correct the menu can be closed by pressing F5 (or with Fl to the last menu)
* The new value will now become active

In short:
Step I Call menu (F5)
Step 2 Select (F2 or F3)
Step 3 Confirm (F4)
Step 4 Close all menus (F5) or close sub menu (Fl)

Step 2 and 3, depending of the value to be changed, are to be repeated several times.

For quick in- or decreasing a value, F2 or F3 should be hold for more than 3 seconds. After this period, value steps rapidly changes until the F-key is released.

OPERATING DISPLAY

When connecting the SFM to the mains, the unit will start up and after ± 4 seconds the main status will appear on the display.
Displayed are the fol1owing parameters:
- Output frequency
- Mono/stereo function
- Input source, including specifications
- Program name (RDS, IQ or manual given)
- Installed options
- VU-meter

MAIN- and SUB MENUS

After pushing F5 (menu) one time, the main menu will appear. The main menu will show all available submenus:

- RF-OUT
- AUDIO
- ASD (when installed)
- RDS (when installed)
- IQD (when installed)
- NAME
- PRESET
- COMM
- ALARM

RF-OUT

When selecting the submenu "RF-OUT', the following subjects can be adjusted:

-   Frequency   87.50 - 108.00 MHz 10KHz steps
-   RF out   On Off
-   RF Level   100.0 - 120.0 dBμV 0.5dB steps

AUDIO

When selecting the submenu "AUDIO", the following subjects can be adjusted:

-   Source   Mute/ Aux or (when option is installed) Aux/ "Option" (ASD, IQD)
-   M/S   Mono/Stereo broadcast-mode (see *)
-   Left   -9 - +6 dB (Audio level)
-   Right   -9 - +6 dB (Audio level)

* When IQD-option is installed, and the IQ-channel is in mono mode, the program will be broadcasted in
  Mono-mode, independent of the Mono/Stereo switch in this sub-menu.   .
* When the IQ-channel is in stereo-mode, it is possible to broadcast in mono-mode by means of the
  Mono/Stereo Switch in this sub-menu.

ASD (when installed)

When selecting the submenu "ASD", the following subjects can be adjusted:

-   Freq.L   6.00 - 8.50 Mhz   10KHz steps
-   Freq.R   6.00 - 8.50 Mhz   10KHz steps
-   Squelch   70 - 85 dBμV   1dBμV steps (hysteresis 3dB on/off)

RDS (when installed)*

When selecting the submenu "RDS", the following subjects can be adjusted:

-   Source   Intern/Extern
-   PI   0000 - FFFF Hex. numbers
-   M/S   Music/Speech
-   PTY   NONE INFO DRAMA VARIED M.O.R. M
         LIGHT M NEWS SPORT CULTURE POP M
         AFFAIRS EDUCATE SCIENCE ROCK M
         CLASSICS OTHER

When "SOURCE" is selected "INTERN", the name entered in the submenu "NAME" will be broadcasted as RDS-information. If "SOURCE" is selected "EXTERN", the data from the external RDS data input (EBU SPB-490 protocol) will be broadcasted. This data input is the COM RDS input, Sub D9 male connector, at the back. Data communication with RS 232, pins 2 (rx) and 5 (gnd) or RS 422, pins 4(+) and 5(-).

* *This sub-menu will not be available when an IQD is installed.* User manual Profline SFM.

IQD (when installed)

When selecting the submenu "IQD", the following subjects can be adjusted:

- IQ channel   1-16
- Data mode   AI/PI Additional / Program Information (see *)
- Mono mode   Monol/Mono2
  Only active when the selected channel is mono. When the selected channel is stereo this preset has
  no effect on the broadcast mode.
  When the channel switches to mono this mode will become active.

* Additional Information is the information witch is inserted in the IQ-stream at the transmitter side.
  This information can be used for tuning-in and monitoring the channel.
* Program Information is the information which is broadcasted by the stations.
  When selected PI-mode this transparent program information will be used as RDS-source.
  When selecting PI-mode, make sure there is PI-info available from the transmitter!!

NAME

When selecting the submenu "NAME", the name of the program can be installed:

- NAME   8 characters maximum Available characters (ASCII 32 - ASCII 125)
- COPY   *Only available with IQD-option*

By using the F2 or F3 key's (select) and the F4 key (confirm), the character can be appointed to a position. The cursor, within this menu, is a horizontal bar at the bottom of the character position.
After selecting the position (F2 or F3) of the character, the confirmation (F4) will give the menu
To select a character at the cursor position (ASCII 32 - ASCII 125). With the F2 or F3 keys, the right character can be chosen.
To install this character F4 (confirm) has to be pressed.

Note: When the IQD-option is installed there is also the possibility to copy the name from the AI or PI
blocks to the program-name of the SFM. Place the flashing cursor at COPY and press F4

PRESET

When selecting the submenu "PRESET" the following choices are available:

- SAVE AS   1 t/m 32
- PROGRAM PRESET   1 t/m 32
- RECALL PRESET   1 t/m 32

When the selection of **"SAVE AS"** is made all relevant variables can be saved to the preset number the user has selected with F2 or F3. By pressing F4 the variables are than saved to the preset number.

When selecting **"PROGRAM PRESET"** and the preset number is confirmed (F4), all variables from the submenus can be adjusted. These will be automatically saved when changing the value and pressing the F4 (enter) key.

With the function **"RECALL PRESET",** the user can select an installed preset number/program which becomes active when pressing the F4 (enter) key.

It's recommended, when saving the variables from a program, to save also the name of this program (see submenu "NAME"). This gives the user, besides the preset number, an extra identification when using "RECALL PRESET' or "SAVE AS". When stepping through the presets I to 32, also the name of the program will be visible in the display.

<div align="center">**COMM**</div>

The submenu "COMM" is used for communication through the RCDS-bus at the back. RCDS stands for Remote Control and Diagnostics System and is used for complete remote controlling of the SFM.

When selecting the submenu "COMM" the following subjects can be adjusted:

-	MESSAGES	Disabled/Enabled
-	BAUD	1200 - 19200 (1200,2400,4800,9600,19200)
-	ADDRESS	00 - 3F (Hex)
-	TEST MESSAGE	When activating this function, the SFM is announced to the RCDS-system

<div align="center">**ALARM**</div>

When selecting the Alarm submenu the following alarm-outputs/messages can be installed:

-	PLL	OFF/ -A- / -B-
-	INPUT	OFF/ -A- / -B-
-	TEMP	OFF/ -A- / -B-
-	ASD	OFF / -A- / -B- (when installed)
-	IQD	OFF/ -A- / -B- (when installed)

The alarm will become active when:
- PLL: When the PLL is out of lock
- INPUT: When for a period of 5 minutes no audio is detected
- TEMP: When the internal temperature of the SFM becomes higher then 65°C
- ASD: When RF-input level drops under the Squelch level
- IQD: When there is a loss of sync (no-data / corrupt-data)

When an alarm has been detected and the submenu "ALARM" is selected, there is an indication wilt "* *" which indicates that this alarm is active (example *A* = alarm A is active).

Alarm connector: Sub D9 Female:
Connections: -A alarm: 7= Common 8=NO 9=NC
                                -B alarm: 3= Common 4=NO 5=NC

Connections at the back

From left to right:

Mains connection	IEC panel mount plug with fuse or DIN 11122 when using 48VDC
Alarm A/B	Sub D9 female
RCDS	Sub D9 male
RF-test output - 20 dB	BNC
RF output	BNC
Audio input right	XLR male
Audio input left	XLR male
Coder I/O	Sub D9 female
Input option	BNC (ASD) XLR-male (IQD)
COM-RDS	Sub D9 male (when installed)
Ground chassis	M6