

## Technical Note

# RECONFIGURING THE HEARTSTART FR2/FR2+ TO MEET THE AHA 2005 GUIDELINES

## BACKGROUND

All existing HeartStart FR2 series defibrillators (M3840A, M3841A, M3860A, and M3861A) can be reconfigured by the user to adapt to the major elements of the American Heart Association Guidelines 2005. FR2 defibrillators running software version 1.5 or lower can be reconfigured to meet the pertinent new recommendations; FR2 defibrillators running software version 1.6 or later can be optimized for the Guidelines. The 1.6 software upgrade (REF: M3876A FR2 1.6) adds SMART CPR and Quick Shock features to the defibrillator and – with the exception of shortened voice prompts after a No Shock Advised decision – does not result in AHA Guidelines 2005 default parameter settings.

*NOTE: To check which software version is used by your FR2, remove and reinstall the battery to perform the battery insertion test. The software revision (e.g., v1.3, v1.4, v1.5, v1.6) is displayed on the screen at the end of the test.*

Medical directors should consider their programs and – if the decision is made to reconfigure the defibrillator – train users to the new protocol before revising the defibrillator settings.

The following changes need to be made to the FR2 default configuration in order to comply with the Guidelines. These changes will override any previous changes.

PARAMETER	NEW SETTING	CHANGE
Shock Series	1	Changes the 3-shock sequence to a 1-shock sequence.
Resume Key	ON	Activates the Resume key to allow the user to initiate an analysis. <i>NOTE: The Resume key is automatically set to ON (and cannot be turned off) if the selected CPR Timer setting is &gt; 1.0 minute.</i>
CPR Timer	2.0	Changes the CPR pause following a shock to 2 minutes.

PARAMETER	NEW SETTING	CHANGE
NSA Action	2.0	Changes the CPR pause following a No Shock Advised decision to 2 minutes.
CPR Prompt	SHORT	Shortens the voice prompts after a shock by eliminating the instructions to check for circulation and breathing. The longer prompts will still be given after a No Shock Advised decision, and include a circulation check.  <i>NOTE: Short prompts are available after both Shock and No Shock Advised decisions with the M3876A FR2 1.6 software upgrade, which also includes SMART CPR and Quick Shock.</i>

## METHODS

There are two methods that you can use to reconfigure your FR2 Defibrillator.

### TO RECONFIGURE A SINGLE FR2/FR2+ DEFIBRILLATOR

#### Requirements:

- M3864A Training and Administration battery pack
- M3855A Training and Administration battery pack charger (needed to recharge the M3864A)

#### Procedure:

Modify parameter settings. *In the following instructions, use the lower option button to move the highlight bar, and use the upper option button to make your selection.*

- 1 Remove the gray (M3863A) standard battery or blue (M3848A) rechargeable battery.
- 2 Insert the yellow M3864A Training & Administration Pack into the defibrillator while pressing both blue option buttons at the same time.
- 3 Select SETUP to bring up the SETUP screen.

ADMINISTRATION
SETUP
CLOCK
REMOVE BATTERY TO QUIT

- Select **MODIFY SETUP** to bring up the first **MODIFY SETUP** screen.

SETUP
RETURN
RECEIVE SETUP
READ SETUP
<b>MODIFY SETUP</b>
SEND SETUP
WRITE SETUP

- Select **NEXT** to bring up the second **MODIFY SETUP** screen.

MODIFY SETUP
<b>NEXT</b>
SPEAKER VOLUME 8
RECORD VOICE NO
ECG DISPLAY ON
CPR FIRST NO
ECG OUT OFF

- Make the following setting selections (highlighted in illustration):  
**SHOCK SERIES** — set to 1  
**RESUME KEY** — set to ON  
**CPR TIMER** — set to 2.0  
**NSA ACTION** — set to 2.0

MODIFY SETUP
<b>NEXT</b>
SHOCK SERIES <b>1</b>
PROTOCOL TIMEOUT 1.0
PAUSE KEY OFF
RESUME KEY <b>ON</b>
CPR TIMER <b>2.0</b>
NSA ACTION <b>2.0</b>

- Select **NEXT** to bring up the third **MODIFY SETUP** screen.

- Make the following setting selection (highlighted in illustration):  
**CPR PROMPT** — set to **SHORT**

MODIFY SETUP
<b>RETURN</b>
ADVANCED OFF
CPR PROMPT <b>SHORT</b>
PROMPT INTERVALS
MONITOR 1.0
ADVANCED USE 0.5

**Verification:**

Verify the new setup selections as follows:

- Remove the yellow Training & Administration battery pack.
- Insert the gray M3863A or blue M3848A battery and select **NEXT** from the main menu within 10 seconds. (If the defibrillator begins a battery insertion selftest before the new setup is reviewed, remove and reinsert the battery.)
- Select **SETUP** to bring up the **SETUP** screen.

RUN SELFTEST
REVIEW INCIDENT
CARD FULL IN XX.XH
GOOD BATTERY
<b>NEXT</b>
IN EMERGENCY
PRESS OFF TO QUIT

DEVICE HISTORY
BATTERY HISTORY
<b>SETUP</b>
CLOCK
RETURN
IN EMERGENCY
PRESS OFF TO QUIT

- 4 Select REVIEW SETUP to bring up the first REVIEW SETUP screen.

SETUP
RETURN
RECEIVE SETUP
READ SETUP
<b>REVIEW SETUP</b>

- 5 Select NEXT to bring up the second REVIEW SETUP screen. The screen should display the new SHOCK SERIES, RESUME KEY, CPR TIMER, and NSA ACTION setting selections.

REVIEW SETUP
<b>NEXT</b>
SHOCK SERIES 1
PROTOCOL TIMEOUT 1.0
PAUSE KEY OFF
RESUME KEY ON
CPR TIMER 2.0
NSA ACTION 2.0

- 6 Select NEXT to bring up the third REVIEW SETUP screen. The screen should display the new CPR PROMPT setting selection.

REVIEW SETUP
<b>RETURN</b>
ADVANCED OFF
CPR PROMPT SHORT
PROMPT INTERVALS
MONITOR 1.0
ADVANCED USE 0.5

- 7 Remove and reinsert the battery to run a battery insertion selftest.

The defibrillator has now been reconfigured.

### TO RECONFIGURE MULTIPLE FR2/FR2+ DEFIBRILLATORS

To reconfigure multiple units, each defibrillator can be reconfigured individually, as described above, or the revised configuration information file can be transferred to a data card and then transferred to additional devices, as described in the following steps.

*Note: Configuration file data cards created on FR2s with the new version 1.6 software will not transfer to devices with older software, or vice versa. The 1.6 software has added configuration options (e.g., SMART CPR) that are not compatible with older software revisions. The FR2's software version is displayed on the screen at the end of the battery insertion test, which is performed by removing and reinserting the battery.*

#### Requirements:

- M3854A data card
- M3864A Training and Administration battery pack
- M3855A Training and Administration battery pack charger (needed to recharge the M3864A)
- FR2 Defibrillator set to the revised parameter settings as described above for a single defibrillator.

Procedure:

Write the parameter settings to the data card. *In the following instructions, use the lower option button to move the highlight bar, and use the upper option button to make your selection.*

- 1 Remove the gray (M3863A) standard battery or blue (M3848A) rechargeable battery.
- 2 Insert an unused data card in the defibrillator.
- 3 Insert the M3864A Training & Administration Pack in the defibrillator while pressing both blue option buttons at the same time.
- 4 Select SETUP to bring up the first SETUP screen.

ADMINISTRATION
SETUP
CLOCK
REMOVE BATTERY TO QUIT

- 5 Select WRITE SETUP to write the SETUP setting selections to the data card.
- 6 Remove the data card.
- 7 Remove the yellow Training & Administration battery pack.
- 8 Insert the gray M3863A or blue M3848A battery to run a battery insertion selftest and return the unit to service.

SETUP
RETURN
RECEIVE SETUP
READ SETUP
MODIFY SETUP
SEND SETUP
WRITE SETUP

Write the parameter settings from the data card to another defibrillator.

- 1 Insert the data card in the next defibrillator.
- 2 Remove and reinsert the gray (M3863A) standard battery or blue (M3848A) rechargeable battery and select NEXT from the main menu within 10 seconds. (If the defibrillator begins a battery insertion selftest before you select NEXT, remove and reinsert the battery.)
- 3 Select SETUP to bring up the first SETUP screen.

RUN SELFTEST
REVIEW INCIDENT
CARD FULL IN XX.XH
GOOD BATTERY
NEXT
IN EMERGENCY
PRESS OFF TO QUIT

DEVICE HISTORY
BATTERY HISTORY
SETUP
CLOCK
RETURN
IN EMERGENCY
PRESS OFF TO QUIT

- 4 Select READ SETUP to read the SETUP setting selections from the data card.

SETUP
RETURN
RECEIVE SETUP
<b>READ SETUP</b>
REVIEW SETUP

The defibrillator has now been reconfigured.

**Verification:**

Verify the new setup selections as described for a single defibrillator, above. Remove the data card and repeat the procedure for reading setup to all defibrillators to be updated.

If you require additional assistance, please contact Philips Medical Systems at 1-800-263-3342 or your local Philips representative.